

What Is Claimed Is:

1. An image digitizing system comprising:

a spatial array of sensors for converting a visual image to signals, each of said sensors providing a respective signal;

5 a signal converter for converting said signals into pixel data describing an array of pixels, each of said pixels being associated with a respective one of said sensors, the pixel data associated with most of said pixels being a function of signals provided by the respective sensors, the pixel data associated with at least one of said pixels not being a function of a signal from the respective sensor but being a function of one or more signals from neighboring
10 sensors.

2. An image digitizing system as recited in Claim 1 wherein multiple pixels are associated with each sensor so that:

for most sensors, all pixels associated with that sensor have values that are functions of the signal provided by that sensor; and

15 for said least one sensor, all pixels associated therewith have values that are not functions of the signals provided by that sensor but are functions of signals provided by neighboring sensors.

3. An image digitizing system as recited in Claim 2 wherein said signal converter comprises:

20 an analog-to-digital converter for converting said signals to signal data;

a data processor for converting said signal data to said pixel data; and

memory for storing sensor calibration values that said data processor uses in converting said signal data to said pixel data, said sensor calibration values being selected from a set of possible calibration values, most of said possible calibration values determining the function
25 accordingly to which a pixel value is determined from the signal data from the signal from the associated sensor, a first of said possible calibration values indicating that the pixel value for the corresponding pixel is not to be a function of signal data from the associated sensor but a function of the signal data from a neighboring sensor.

4. An image digitizing system as recited in Claim 3 wherein said sensor calibration values
30 are two dimensional, with an offset-function value corresponding to an offset function and a

scaling-function value corresponding to a scaling function, said possible calibration values defining an extreme scaling-function value and an extreme offset-function value, said first possible calibration value specifying said extreme offset-function value and said extreme scaling-function value.

- 5 5. An image digitizing method comprising:
 calibrating an array of sensors so as to distinguish "good" and "bad" sensors;
 using said array to convert a visual image to signals;
 converting said signals to image data including pixel values associated with an array of
 pixels, each pixel corresponding to a respective one of said sensors, pixel values associated
 10 with a good sensor being a function of the signal provided by that good sensor, pixel values
 associated with a bad sensor not being a function of the signal provided by that bad sensor but
 being a function of at least one signal provided by a neighboring good sensor.

6. A method as recited in Claim 5 wherein said image data describes a series of raster
 lines, each of said raster lines including a series of said pixels, all pixels associated with said
 15 bad sensor having values determined not as a function of a signal provided by said bad pixel
 but as a function of said neighboring good sensor.

7. A method as recited in Claim 6 wherein said converting step involves:
 converting said signals into digital signal data; and
 converting said digital signal data into said pixel data using sensor calibration values
 20 associated with respective ones of said sensors, said sensor calibration values being selected
 from a range of possible calibration values, said bad sensor being associated with a possible
 sensor calibration value that indicates that the corresponding pixel data is determined not as a
 function of its signal but as a function of the signal of a neighboring sensor.

8. An image digitizing method as recited in Claim 7 wherein said sensor calibration
 25 values are two dimensional, with an offset-function value corresponding to an offset function
 and a scaling-function value corresponding to a scaling function, said possible calibration
 values defining a maximal scaling-function value and a maximum offset-function value, the
 sensor calibration value for said bad sensor specifying said maximum offset-function value and
 said maximum scaling-function value.

9. An image-digitization method comprising the steps of:

using an array of sensors to generate a series of signals; and

converting said signals into pixel data describing an array of pixels, each of said pixels being associated with a respective one of said sensors, the pixel data associated with most of
5 said pixels being a function of signals provided by the respective sensors, the pixel data associated with at least one of said pixels not being a function of a signal from the respective sensor but being a function of a signal from a neighboring sensor.

10. A method as recited in Claim 9 wherein plural pixels are associated with each of said sensors so that for said at least one of said sensors none of the pixels associated therewith are
10 described by pixel data that is a function of a signal associated with that sensor.

11. A method as recited in Claim 10 wherein said converting step involves:

converting said signals into digital signal data; and

converting said digital signal data into said pixel data using sensor calibration values associated with respective ones of said sensors, said sensor calibration values being selected
15 from a range of possible calibration values, at least one of said possible calibration values indicating a sensor for which the corresponding pixel data is determined not as a function of its signal but as a function of the signal of a neighboring sensor.

12. An image digitizing method as recited in Claim 11 wherein said sensor calibration values are two dimensional, with an offset-function value corresponding to an offset function
20 and a scaling-function value corresponding to a scaling function, said possible calibration values defining a maximal scaling-function value and a maximum offset-function value, said first possible calibration value specifying said maximum offset-function value and said maximum scaling-function value.